

REMARKS

Claims 1-10 were in issue. By this amendment, claims 1-10 are presented and at issue. No new matter has been added. By this amendment, claims 1-10 are believed to be in condition for allowance.

The Invention

The invention provides a method by which the resources necessary to run an application or a set of applications on a parallel processing system can be effectively estimated, measured, and verified. The preferred embodiment creates a data file from a graph describing the application on the parallel processing system. Using that data file, plus the processing speeds of system components, the flow of data, and the size and counts of data records throughout the system, equations for the amount of time required for each component are determined. These equations are then used to provide calculations of processing times on supplied data sets. This information preferably is displayed in spreadsheet form. Charts can be created by calculating times for multiple data sets. Future trends can be predicted by analyzing historical data and such analyses can be displayed in spreadsheets or charts as well. For evaluation of actual systems, information about the components, such as processing speed, is updated as execution of the application is monitored. This allows measuring of current systems as well as verification of performance. (Specification, page 3, lines 12-24.)

The §101 Rejection

Claims 1-3, 5, 7, and 9 stand rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. This rejection is respectfully traversed.

The rejection contends that claim 1 defines a method which manipulates an abstract idea without a practical application. It is respectfully submitted that claim 1 specifies a useful, concrete, and

tangible result and so is directed to statutory subject matter. (See 35 U.S.C. §101, and State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998).)

Claim 1 defines a method for analyzing the capacity of an application executing on a parallel processing system and expressed as a graph of vertices, comprising the steps of: (a) creating a description of the sizes of data records throughout the graph; (b) creating a performance description of each vertex in the graph; (c) determining an execution time for each vertex in the graph; (d) determining counts of data records assigned to corresponding vertices in the graph; and (e) creating a description of the total execution time and performance of the system based on the determined execution time and counts of data records.

Step (e) clearly specifies creating a description of the total execution time and performance of the system. This description is useful, concrete, and tangible. The description can be used for analyzing performance of system configurations, such as a current system or a proposed system. (See, e.g., the Specification, page 5, lines 1-14.) The description can be provided as data stored in electronic form, such as an electronic document stored on a storage device. In one implementation, the description is provided as a spreadsheet. (See, e.g., FIGS. 2 and 5.) Thus, the description is a useful, concrete and tangible result of the method of claim 1. Accordingly, claim 1 includes statutory subject matter under 35 U.S.C. §101 and so is in condition for allowance, as well as claim 2 which depends therefrom.

Similar arguments apply to claims 3, 5, 7, and 9. Claims 3, 7, and 9 specify generating performance characteristics of an application. Claim 5 specifies applying performance equations which will generate performance characteristics. These performance characteristics are useful, concrete, and tangible results of the methods of the respective claims. Accordingly, claims 3, 5, 7, and 9 include statutory subject matter under 35 U.S.C. §101 and so are in condition for allowance, as well as claims 4, 6, 8, and 10 which depend respectively therefrom.

Accordingly, Applicants submit that the cited references, alone or in combination, do not anticipate or make obvious the invention as presently claimed. Applicants submit that this case is now in condition for allowance. Therefore, Applicants respectfully request reconsideration and reexamination of the present application and allowance of the case at an early date.

Please apply any credits or charge any deficiencies to our Deposit Account No. 06-1050.

Respectfully submitted,

FISH & RICHARDSON



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By: JOHN LAND
Reg. No. 29,554

4225 Executive Square
Suite 1400
La Jolla, CA 92037
(619) 678-5070

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